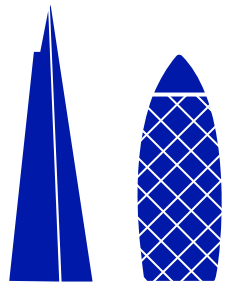




14 OCTOBER 2016

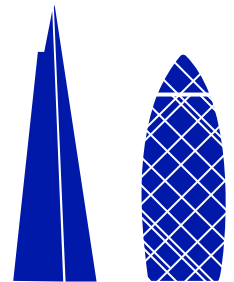
Annual Members' Meeting 2016



EVERY JOURNEY MATTERS

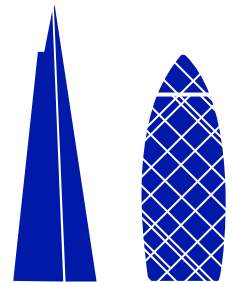
Welcome and Introduction

Maria Antoniou Chair of Trustees



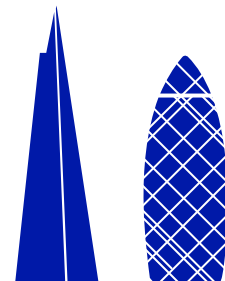
Housekeeping

- Fire alarm and exit
- Toilets
- Mobile phones / Smartphones
- Breaks
- Refreshments



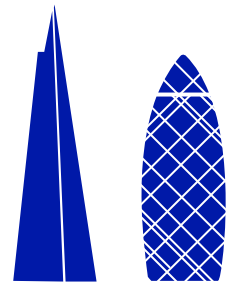
Agenda

Time	Topic	Owner
11.00	Welcome and Introduction	Maria Antoniou (Chair of Trustees)
11.10	Review of the Year	Stephen Field (Fund Secretary)
11.25	Actuarial Update	Gareth Oxtoby (Willis Towers Watson)
11.40	Legal Challenges Facing Trustees	Ian Pittaway (Sackers & Partners)
11.55	Investment Activities of last 12 months & outlook	Ed Francis (Willis Towers Watson)
12.15	Open Forum – Questions & Answers	Maria Antoniou (Chair of Trustees)
12.45	Refreshments and Informal Discussions	All
13.15	Close	All

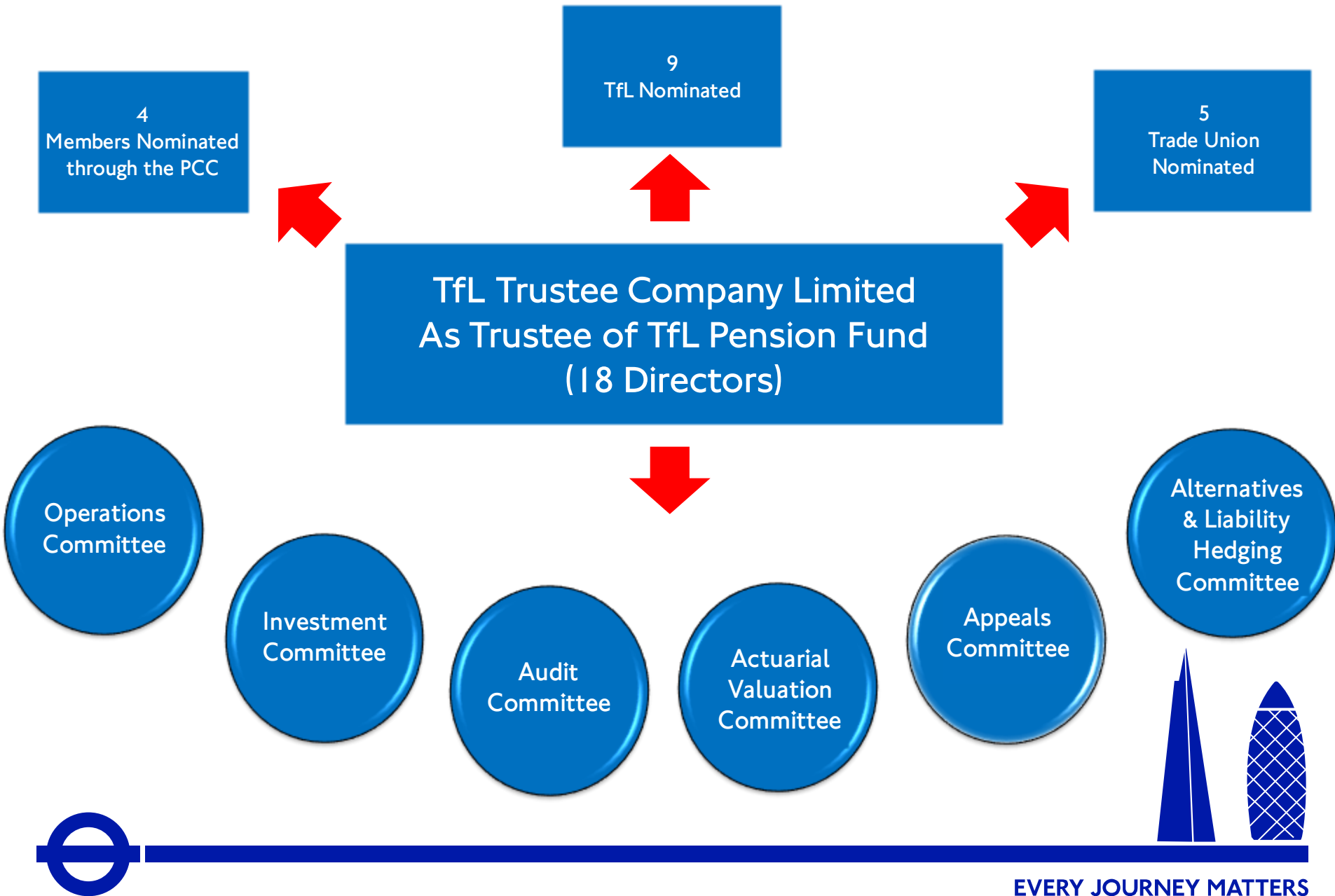


Review of the Year

Stephen Field Fund Secretary



6 Trustee Structure



Trustee Committees

There are six committees who are responsible for looking after different aspects of the Fund as follows:

Operations Committee (8 Members)

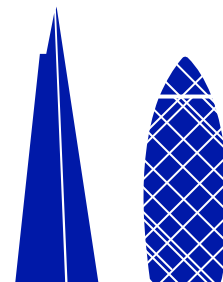
- Deals with budgets, communications, Fund Rules and Fund Office performance.

Investment Committee (8 Members)

- Covers investment matters mainly concerning equities and bonds, including strategy and the appointment and monitoring of investment managers and the custodian.

Audit Committee (6 Members)

- Oversees the Fund's financial affairs, including the external audit, internal controls, accounting policies, corporate governance and risk reviews.



Trustee Committees

Actuarial Valuation Committee (4 Members)

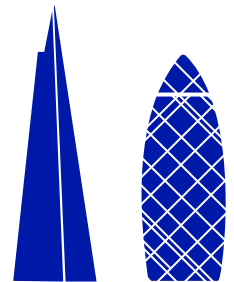
- Deals with all actuarial matters relating to funding and factors for benefit calculations.

Appeals Committee (6 Members)

- Deals with the second stage of disputes in accordance with the Fund's Internal Disputes Resolution Procedure.

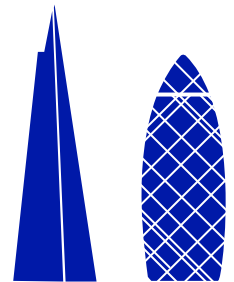
Alternatives and Liability Hedging Committee (4 Members)

- Covers investment matters relating to alternative assets and liability hedging, including strategy, the appointment and monitoring of investment managers and monitoring the overall benchmark for the Fund's portfolio.



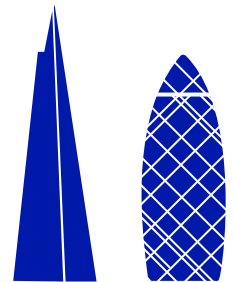
Transfer In Update

- As part of the 2009 valuation transfers into the Fund were suspended from 1 April 2010.
- At the 2012 valuation the suspension was extended until 31 March 2016.
- The Trustees negotiated with the Employer to end the suspension of transfers in to the Fund as part of the 2015 valuation.
- From 1 April 2016 the Fund now accepts transfers in.



Changes to Fund Rules During Fund Year

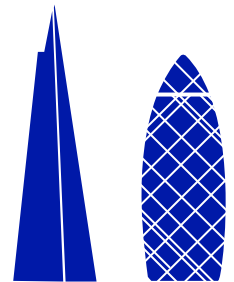
- A number of amendments made in response to legislative change and to improve administrative efficiency:
e.g. to accommodate shared parental leave, allow appointment of agents by power of attorney, operation of 'scheme pays' facility for pensions taxation and with Trustee consent the participation of non-associated employers
- Full details can be found on page 7 of the Report and Accounts



Investment

Investment – Managers

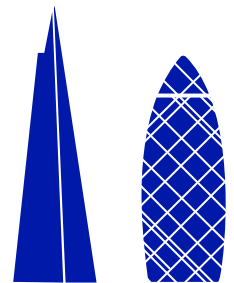
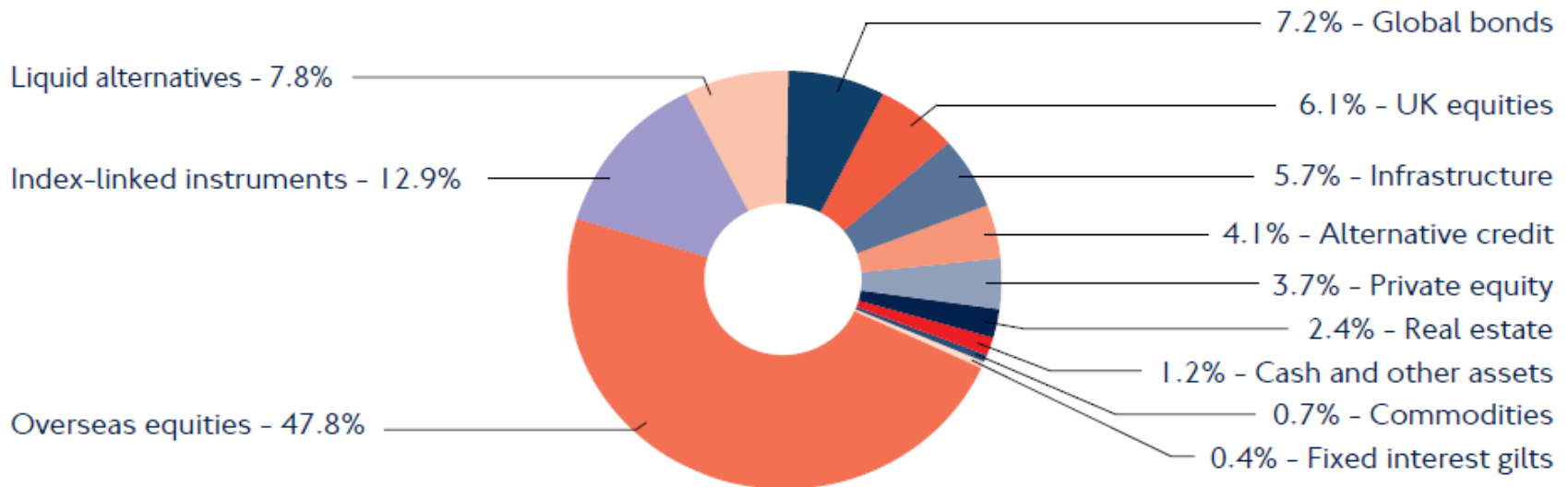
- Funds assets invested through 31 Managers with 40 Portfolio's
- During the Year:
 - 3 New Managers / Mandates appointed
 - 3 Managers / Mandates terminated



Investment Diversity

Investments spread over a number of asset classes

The Fund is held in a range of different investments (assets) in the UK and overseas.

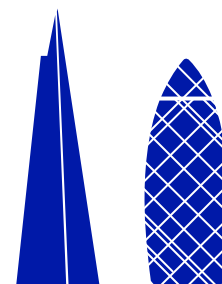


Investment Manager Costs

Topic	2015/16 £m	2014/15 £m
Direct investment management expenses (shown in accounts)	12.8	13.2
Indirect investment management expenses (shown in change in market value)	19.5	34.4
Total investment management expenses	32.3	47.6

Total investment management expenses incurred during the year were £32.3m (last year £47.6m).

This covers both the basic fee and where applicable performance fees. These are either invoiced directly by the managers to the Fund or deducted from the individual asset portfolios.

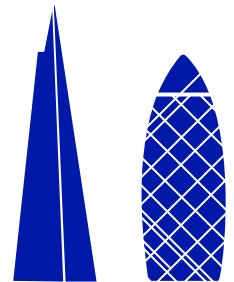


Responsible Investment

- Trustee has a fiduciary duty to earn financial returns to ensure it can meet its pension obligations.
- Supports and encourages good corporate governance in the companies in which it invests.
- Takes account of environmental, social and governance (“ESG”) factors e.g.:
 - Voting on actively managed equities: 422 AGMs at which votes cast against management 166 in 2015/16.
 - Collective action: signatory of the Carbon Disclosure Project (now known as just CDP).
 - “Green” investing where financially justified: £100m in a renewables fund invested in 22 wind and 13 solar projects across the UK powering over 158,000 houses and over 230,000 tonnes of green houses avoided.



- Investment in “basic” infrastructure projects in emerging markets: \$100 million committed to IFC Infrastructure fund investing in critical water, clean energy and telecommunication assets in Asia, Africa and Latin America.



Investment

Investment Fund Value

- At 31 March 2016 Fund value stood at £8.2bn versus £8.3bn at previous year end
- Down £93m

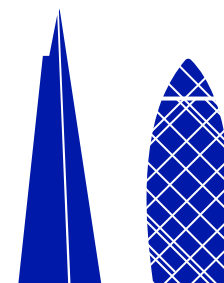
- The change in value over the year:

Income	£378m	
Plus Return on Investment net of expenses	<u>£92m</u>	£470m
Less Expenditure	£347m	
Less Decrease in value of Investments	<u>£216m</u>	£563m
Change in value	- £93m	



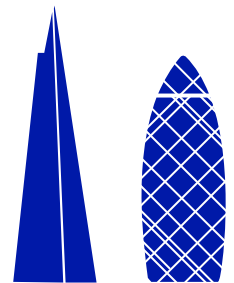
Money into the Fund

Topic	2015/16 £m	2014/15 £m
Employers' contributions	317.2	298.0
Members' contributions	59.1	53.6
Investment income net of expenses	92.0	68.3
Transfers in from other schemes	1.4	0.2
Total Income	469.7	420.1



Money out of the Fund

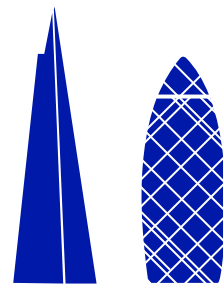
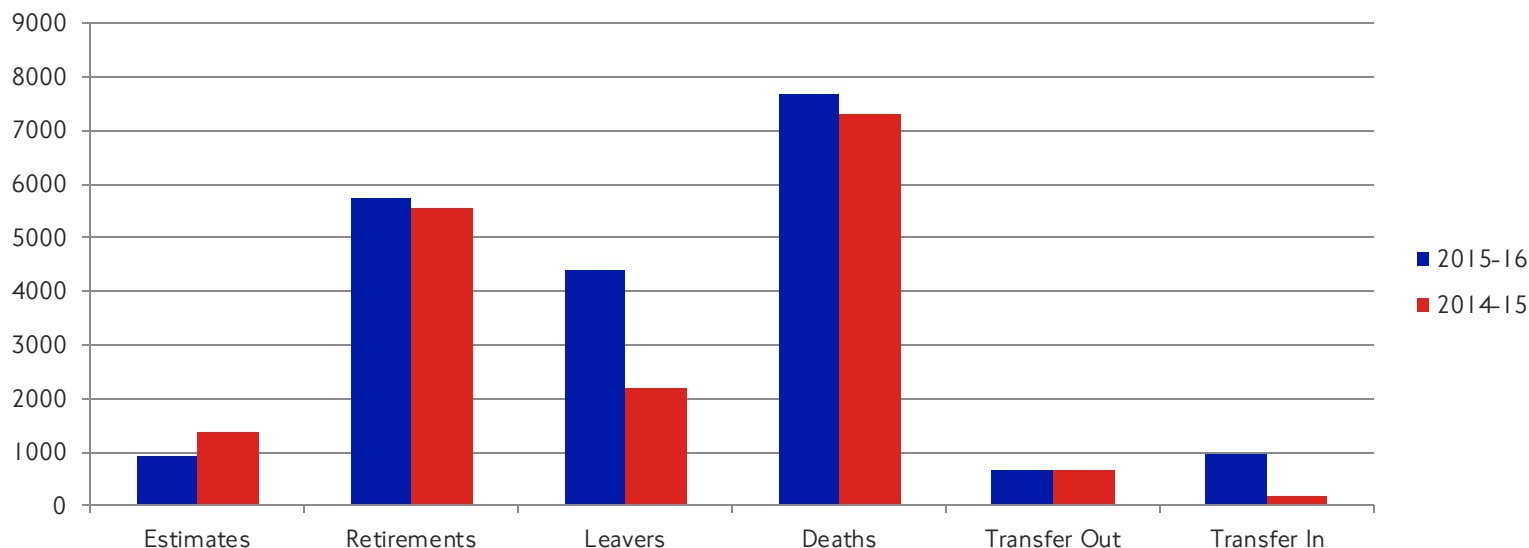
Topic	2015/16 £m	2014/15 £m
Benefits payable	328.0	300.4
Payments to & on account of leavers	3.3	3.5
Other payments	4.5	3.7
Administrative expenses	4.2	3.7
Pension levies	7.1	7.3
Total	347.1	318.6



Workload of the Fund Office

This has been yet again a busy year for the Fund Office with workload over the period to 30 June 2016:-

- In addition to the graph, over 27,367 pieces (25,054 in 2015) of general correspondence completed
- Work on specifying new Pensions Administration System
- Retro calculations following the 2015 and 2016 pay awards for London Underground
- Fit for the Future Stations leaver programme
- Incorporating new SORP requirements into Annual Report



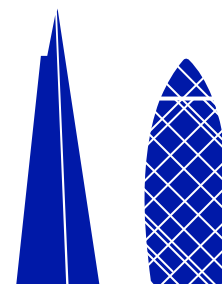
Membership Review

Membership numbers between 2015 and 2016 Fund years

2015 – Total members: 83,466

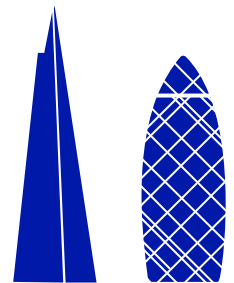
24,336	17,111	31,394	10,625
Contributing members	Deferred pensioners	Pensioners	Dependants & children
25,636	16,732	31,647	10,544

2016 – Total members: 84,569



Organisations Exhibiting in the Great Hall

- TfL Pension Fund Office
- TfL Pensioner Liaison Scheme
- The Pensions Consultative Council (PCC)
- LT Museum Friends
- Tax Help for Older People
- Action on Hearing Loss





TfL Pension Fund

Results of the actuarial valuation as at 31 March 2015

Presentation to the Annual Members Meeting

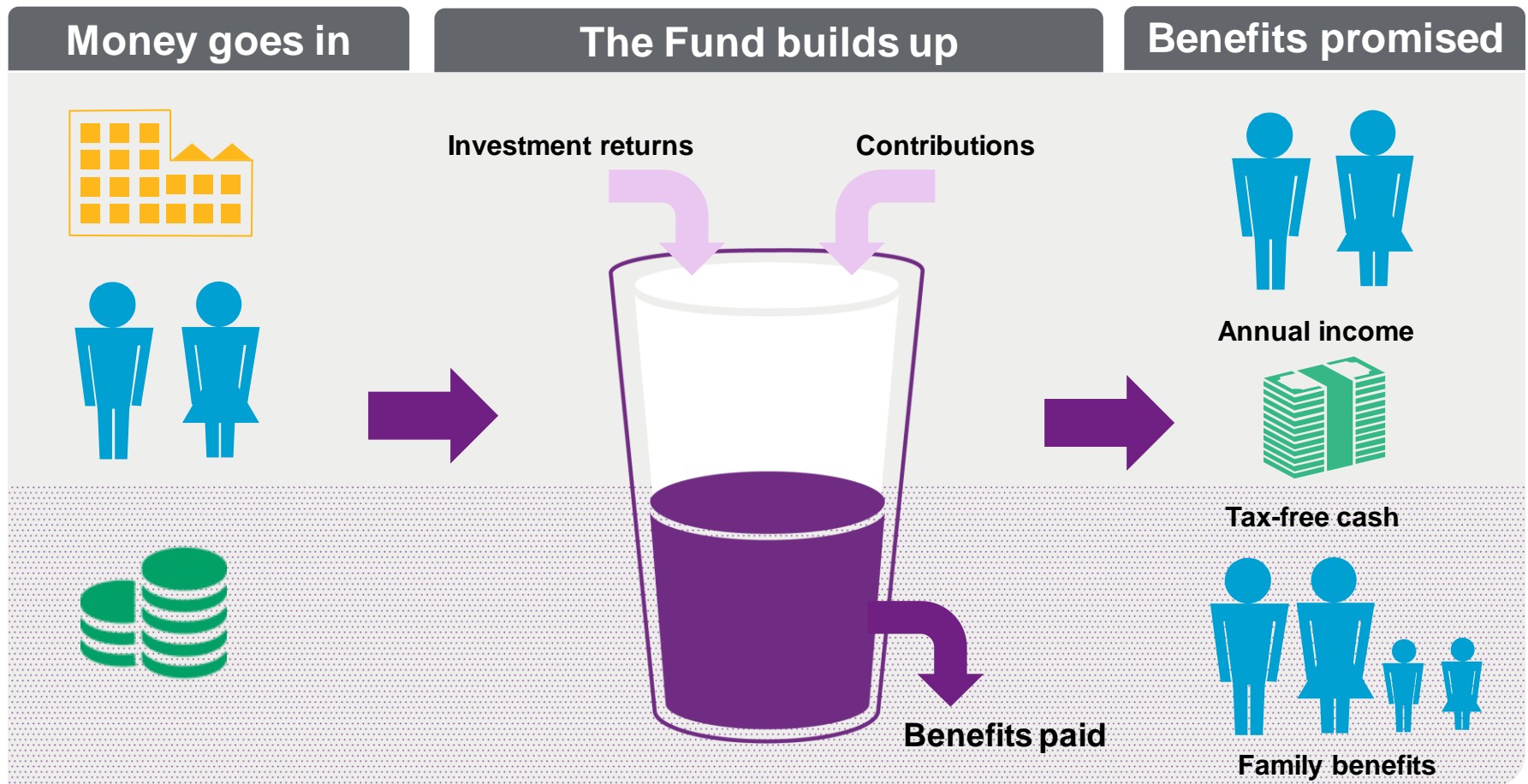
Gareth Oxtoby

14 October 2016

Introduction

- From an actuarial perspective the 2015/16 Fund year was all about the three yearly funding review ('valuation') as at 31 March 2015.
- I will cover today:
 - A bit of revision
 - How the financing of a defined benefit pension scheme works
 - What is the valuation for anyway?
 - The importance of investment strategy and employer covenant
 - Key assumptions
 - Main results
 - Agreed contributions.
- Each Section of the Fund was valued separately. In practice, during 2015/16 there was further consolidation of the Sections of the Fund so that there are now only two Sections remaining – the Public Sector Section and the Composite Section (for non-TfL employers).
- The remainder of this presentation focusses on the valuation of the Public Sector Section ('PSS').

Reminder: how 'defined benefit' (DB) schemes such as the Fund work

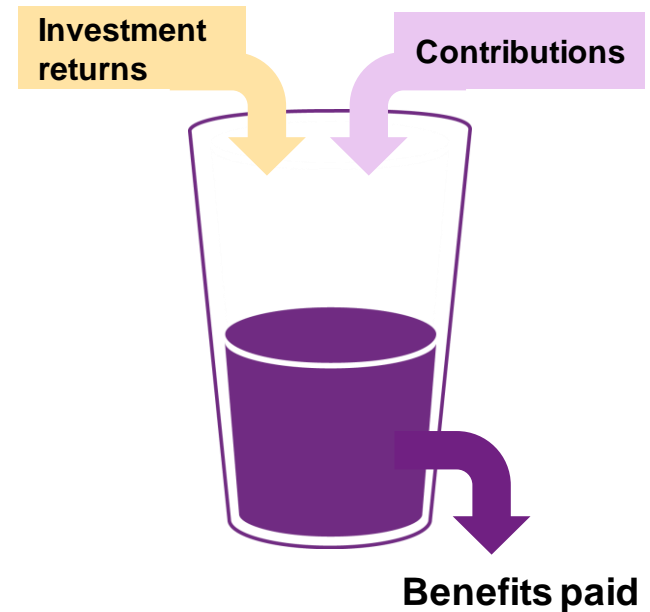


Key point: there is no link between the amount of contributions which members pay into the Fund and the benefits they receive – it is a 'balance of cost' arrangement where the employer meets the cost of financing benefits in excess of (fixed) member contributions

So how do we know how much the employers need to pay so that there is enough money in the Fund to pay benefits?

An actuarial valuation involves:

- estimating the present value of the cost of paying benefits promised to Fund members and comparing with the value of the Fund's assets
- determining a rate of future contributions to provide appropriate security for members' benefits
- the Trustee sets the methodology and assumptions to be adopted for determining the value of the Fund liabilities, but has to agree these with TfL



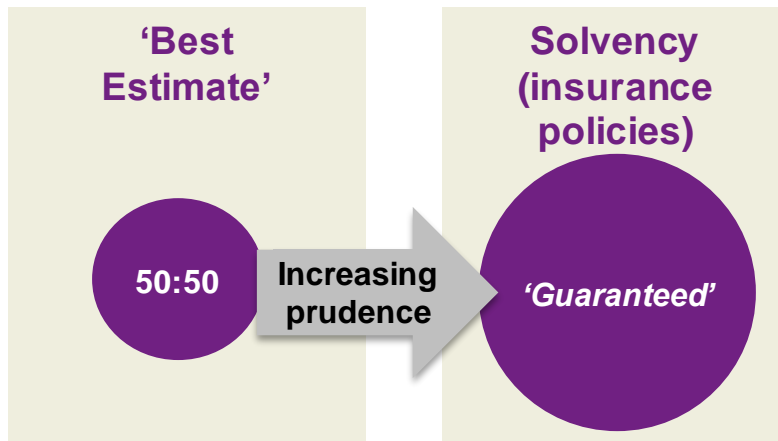
The valuation process should help to answer the following questions:

- Is there enough money in the Fund to cover benefits earned to date?
- How much needs to be paid into the Fund in order to make up any deficit?
- How much risk does the trustee wish to take?

Consideration of risk is a key part of the valuation process

Relationship between covenant, investments and funding

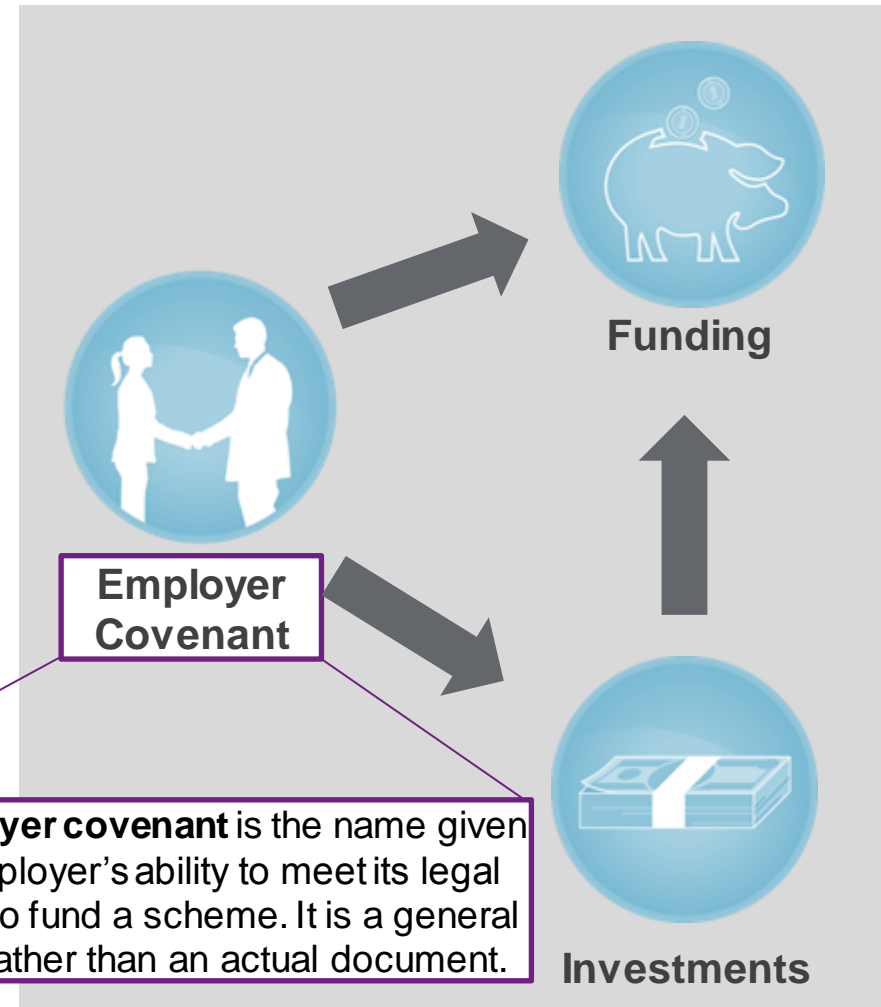
The liabilities calculated for the valuation are known as 'Technical Provisions'. They are calculated using assumptions agreed by the trustees and the employer.



Where to set the Technical Provisions in this range depends on:

- The employer covenant
- The level of risk in the scheme's investment strategy

The **employer covenant** is the name given to the employer's ability to meet its legal obligation to fund a scheme. It is a general concept, rather than an actual document.



Methodology and covenant assessment

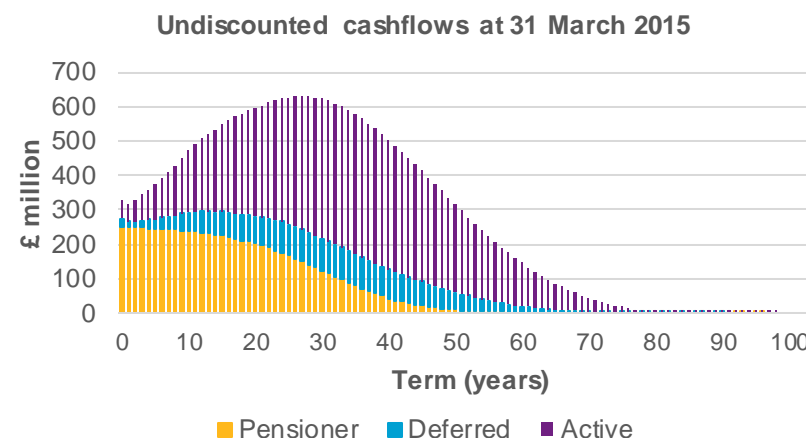
- The Trustee adopted a consistent approach for the 2015 valuation to that used for the 2012 valuation. Central to this approach are assumptions that:
 - the PSS is regarded as an ongoing entity that will remain open to new entrants
 - the PSS's current strategy to invest the major part of its assets in "return-seeking" investments (such as equities) will continue, and that these "return-seeking" assets will outperform gilts.
- This is underpinned by the Trustee's expectation that TfL provides, and will continue to provide in future, strong financial support to the PSS.
- Penfida Limited advised the Trustee that TfL continues to provide strong support for the PSS. The headline conclusions of the Penfida analysis were as follows:

Key TfL criteria	Commentary
Integral to UK economy	Essential nature of the London transport infrastructure to the UK economy London's importance is growing - Crossrail completion will continue trend
Net asset value	Net asset value estimated at £25.7bn (up from £18.4bn in 2012)
Value of implied operating surplus	Cost of capital has reduced and operating performance has improved – implied surplus has increased by £5-10bn since 2012
Availability of finance / credit rating	Average cost of funding has fallen. Although debt has increased, TfL is comfortably within its borrowing limit and credit rating remains at AA+
Operating / capital project track record	Demand for TfL's services has continued to increase and TfL has a good record of meeting operational and investment targets
Statutory framework	TfL has effective control mechanisms. TfL borrowings are secured on all revenues of the business

Lots of assumptions are required to place a value on the PSS liabilities

Step 1: build a model of future benefit payments

- We estimate future benefit payments from the Section accrued in respect of employment up to the valuation date
- This requires assumptions to be made about the future; both financial assumptions (eg future rates of price inflation, salary increases, pension increases) and demographic assumptions (eg when members will retire, how long they will live)

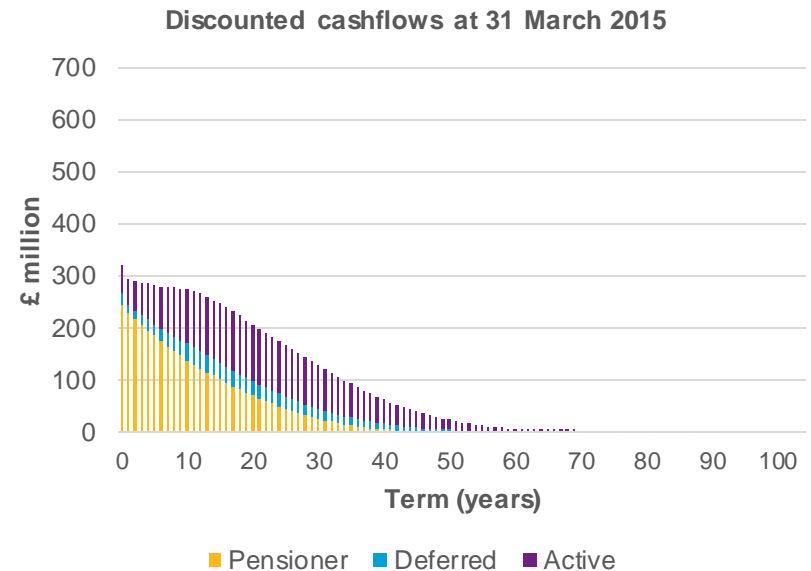
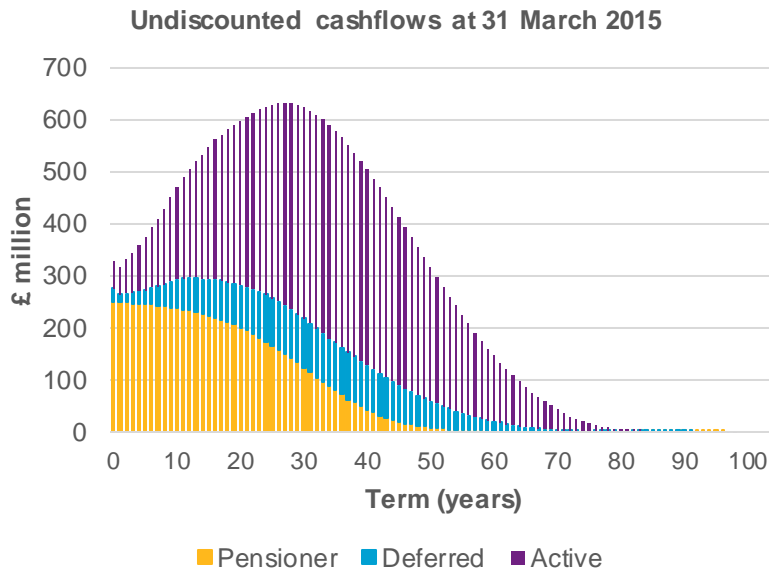


Key financial assumptions (all % pa)	2012		2015	
	Nominal	Real	Nominal	Real
RPI inflation	3.4	-	3.2	-
General pay increases	4.15	0.75	3.7	0.5
Pension increases				
- Existing Members	3.4	0.0	3.2	0.0
- New Members	3.2	(0.2)	3.0	(0.2)

- Demographic assumptions: the assumed rates of pensioner mortality were amended slightly, taking into account recent Fund experience and the latest standard projections of expected future changes in longevity. In addition, minor amendments were made to expected retirement rates and rates of death-in-service, and allowance was made for a small improvement in the Fund's commutation terms.

The key assumption required to place a value on the PSS liabilities is the discount rate

Step 2: discount future benefit payments to a present value to compare with Fund assets



- For example
 - If you are due to pay £100 in a year's time and you can earn 5% pa on your investments, you need £95 today – but if you can only earn 3% pa, you need £97 today
 - If you are due to pay £100 in 10 years' time and you can earn 5% pa on your investments, you need £61 today – but if you can only earn 3% pa, you need £74 today
- **The larger** the returns that you expect from your investments, **the less** money you need today
- **The longer** the time period until a payment is due, **the greater** the effect of discounting

Choice of discount rate for the 2015 valuation of the PSS

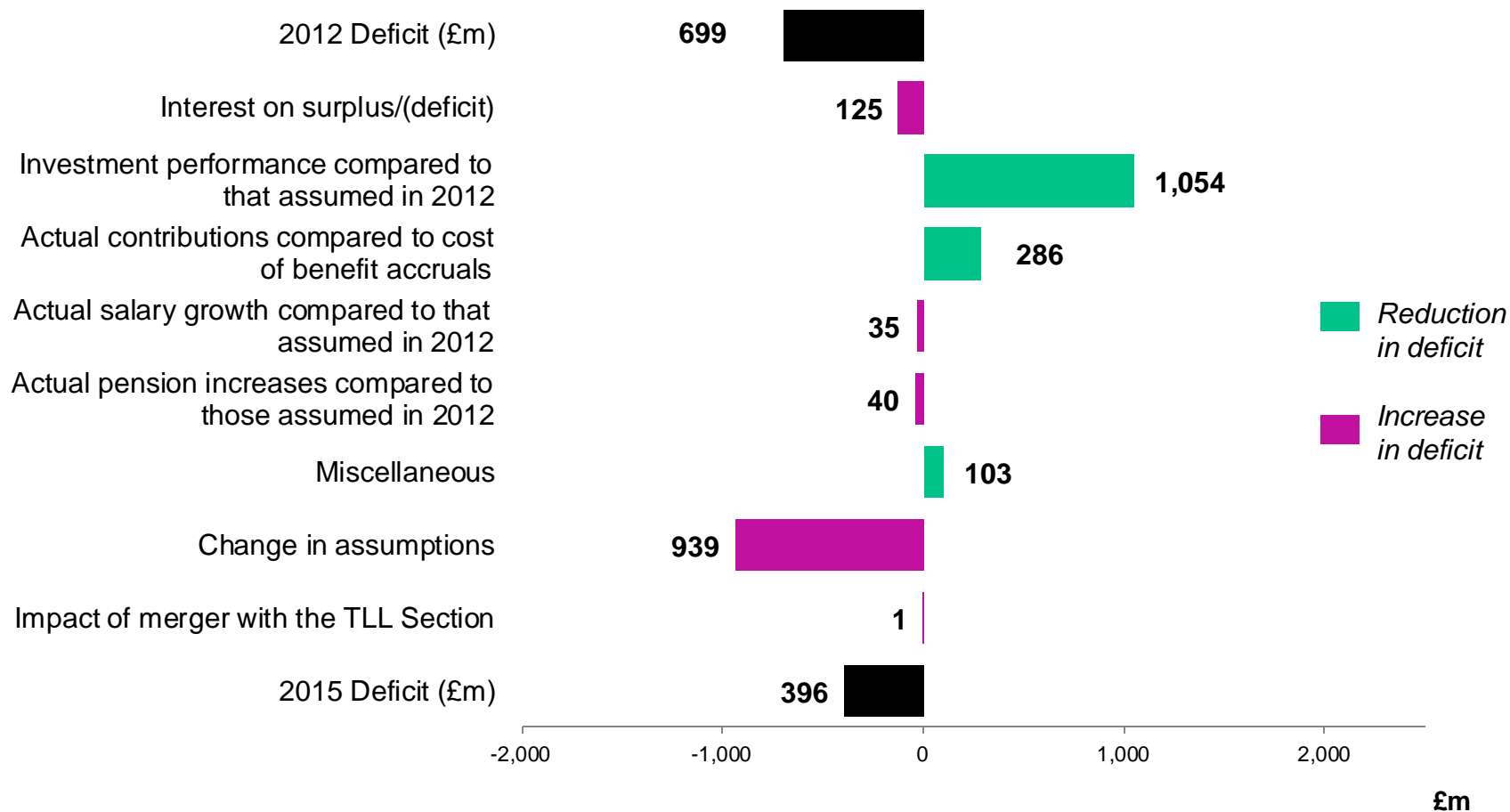
- The capital value placed on pension scheme liabilities depends upon the rate of return we assume the Fund will achieve on its assets. We are comparing a present value of liabilities with a market value of Fund assets – so the discount rate used should reflect market conditions at the valuation date.
- Regulations require the value of liabilities to be assessed prudently, so the Trustee chose a discount rate which is intended to be a prudent assessment of expected returns on Fund assets.
- Specifically we modelled a range of possible future investment return scenarios, and chose a discount rate such that the Fund assets were expected to return at least that rate over the long term in 60% of scenarios.
- In general, market expectations of future returns on most asset classes trended downwards over the three years to 31 March 2015 as gilt yields have fallen. This was reflected in a lower discount rate for the 2015 valuation compared with 2012.

	31 March 2012 % pa	31 March 2015 % pa
Real yield on 20 year index-linked gilts	-0.05%	-0.95%
Real discount rate (in excess of assumed RPI price inflation)	2.98%	2.11%
Assumed RPI inflation	3.4%	3.2%
Nominal discount rate	6.38%	5.31%

Summary of results

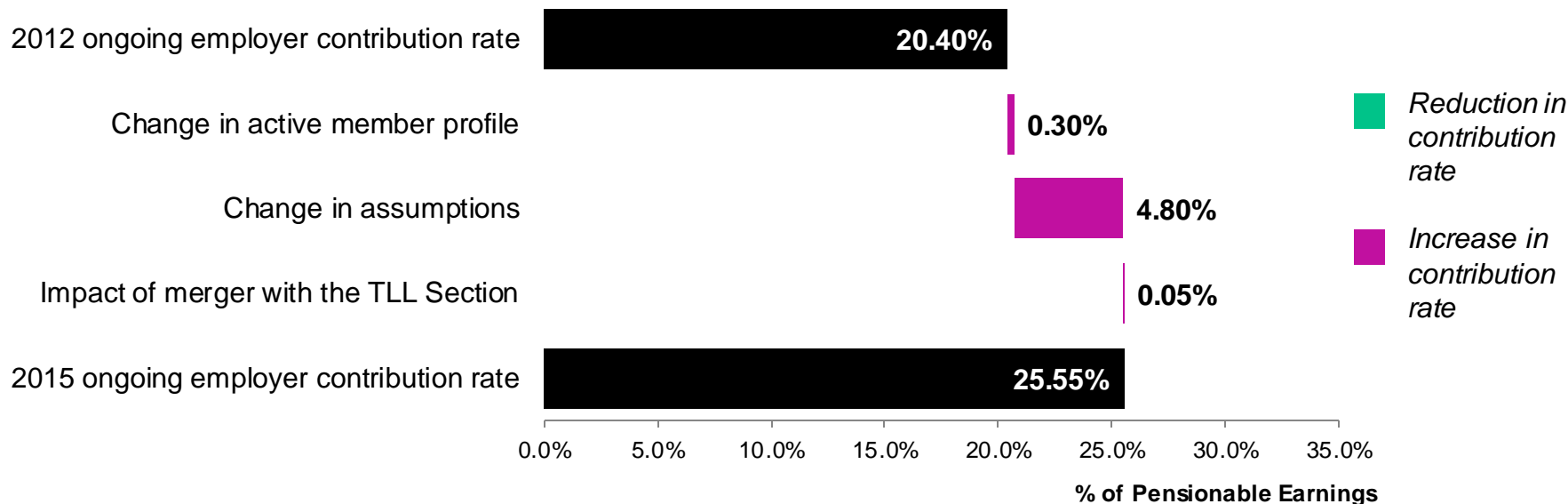
	<i>As at 31 March 2012 £ million</i>	<i>As at 31 March 2015 £ million</i>
	<i>PSS only</i>	<i>Combined PSS + Tube Lines</i>
Value of benefits accrued to valuation date		
- Retired members and dependants	3,052	3,620
- Deferred members	810	1,018
- Contributing members	2,592	3,990
- AVCs	41	58
Total value of accrued benefits	6,495	8,686
Market value of assets (incl. AVCs)	5,796	8,290
Surplus/ (deficit)	(699)	(396)
Funding level for accrued benefits	89%	95%
Ongoing employer cost of accrual	20.40%	25.55%

Main factors influencing the size of the deficit since 2012



Conclusion: Overall, the PSS's financial position improved between 2012 and 2015 – the reduction in deficit of roughly £300m is essentially the same as the level of deficit contributions paid by TfL over the three-year period

Change in cost of accrual to TfL since 2012



- The financial position of the PSS relating to accrued benefits improved over the last three years, as the good performance of the Fund assets broadly compensated for the impact of the lower discount rate on the liability value.
- However, when looking at the contributions required to finance future accrual, we're considering only the terms upon which future contributions are invested – which is expected to be a lower return environment than three years ago.
- **Conclusion: providing new benefit accrual in the Fund has become more expensive for TfL**

Funding agreement - Contributions and deficit removal

What contributions will TfL now pay into the PSS?

	2012 valuation agreement	2015 valuation agreement
TfL contributions to cover cost of future accrual	20.4% of relevant pay	25.55% of relevant pay
Deficit removal		
- Regular contributions	10.6% of relevant pay (payable to 31 March 2020)	5.45% of relevant pay (payable to 31 March 2022)
- Lump sum contributions	£37.8 million (RPI linked) by March 2018	£37.8 million (RPI linked) by March 2018
- Allowance for investment returns above discount rate	+ 0.1% pa (ie assumed returns on Fund assets 0.1% pa higher than the discount rate)	Nil (ie assumed returns on Fund assets same as the discount rate)

- If future experience is in line with our assumptions, the PSS will be fully funded by March 2022.
- In the normal course of events the level of contributions payable by TfL will be reviewed at the time of the next actuarial valuation, due in 2018.
- In the meantime the Trustee continues to monitor the financial position of the PSS on a regular basis. ***Members should note that changes in financial markets since the 2015 valuation date have, in general, been detrimental to pension scheme funding:***
 - latest estimates suggest that the deficit will have increased to over £1 billion
 - cost of future accrual will also increase as yields fall.
- However the Fund is an ongoing entity with a long timeframe and strong support from TfL – it can withstand short-term market fluctuations.

Limitations

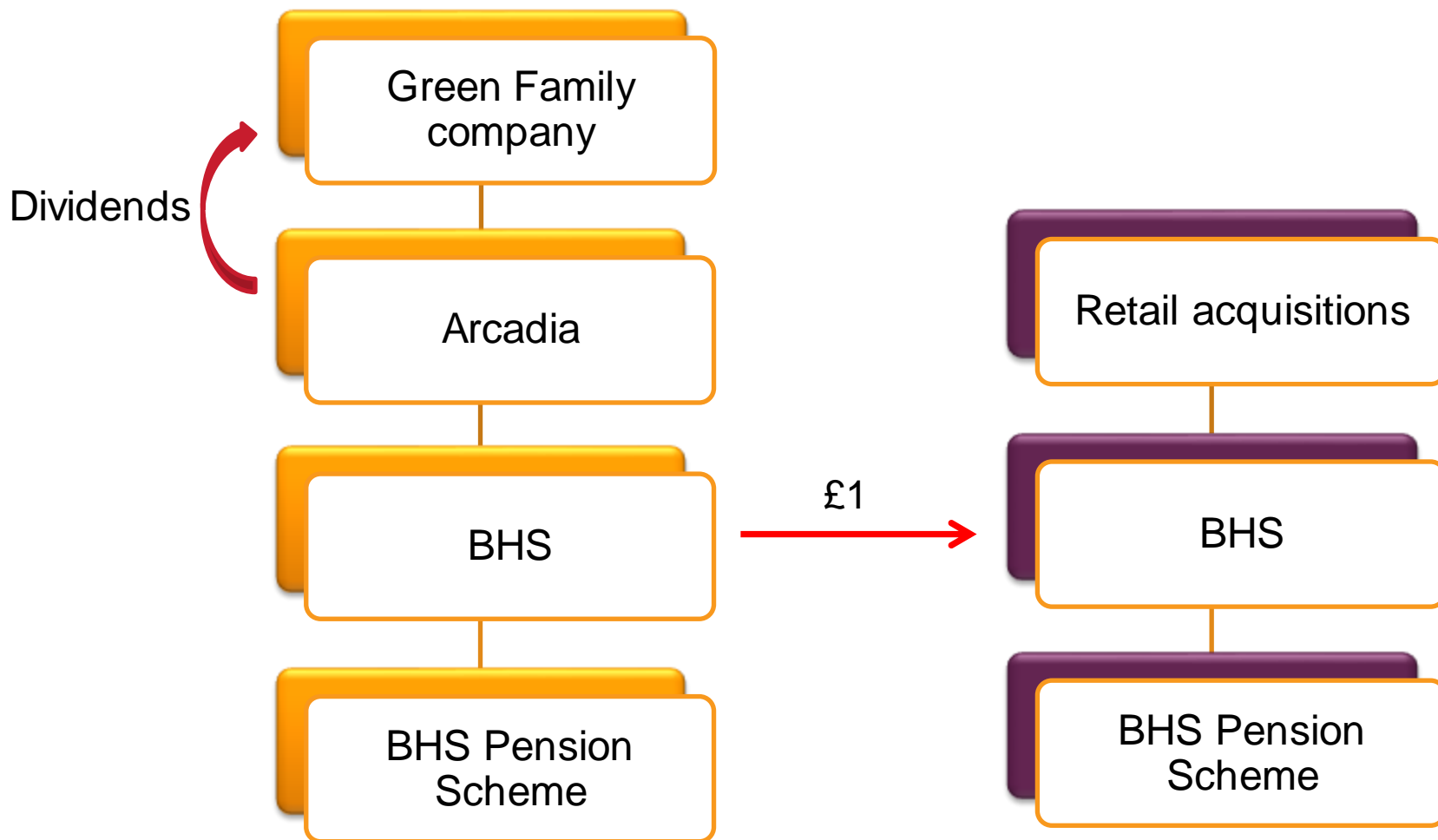
- Willis Towers Watson has prepared this presentation for the Trustee of the TfL Pension Fund as an update from the Actuary to be presented at the Annual Members' Meeting on 14 October 2016.
- It was not prepared for any other use or for use by any other party and may well not address their needs, concerns, or objectives. It is not intended to form a basis for any decisions to do or omit to do anything.
- This presentation is provided to the Trustee solely for its use, for the specific purpose indicated. This presentation is based on information available to Willis Towers Watson at the date of the presentation and takes no account of subsequent developments after that date. It may not be modified or provided to any other party without Willis Towers Watson's prior written permission. It may also not be disclosed to any other party without Willis Towers Watson's prior written permission except as may be required by law. In the absence of our express written permission to the contrary, Willis Towers Watson accepts no responsibility for any consequences arising from any third party relying on this presentation or the opinions we have expressed. This presentation is not intended by Willis Towers Watson to form a basis for any decision by a third party to do or omit to do anything.
- In particular, they should not be used by any member as a basis for taking action or not taking action in connection with any benefit entitlement from the Fund.

TfL Pension Fund

Legal Review of the Year – A year to remember



British Home Stores



A genuine commercial transaction

OR

An attempt to offload company and pension scheme

Where does it leave the members?

Pensioners

100% but with lesser
pension increases

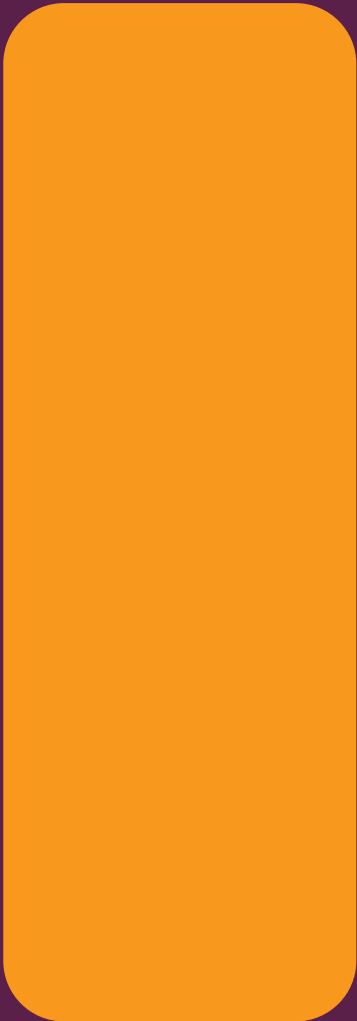
Non-pensioners

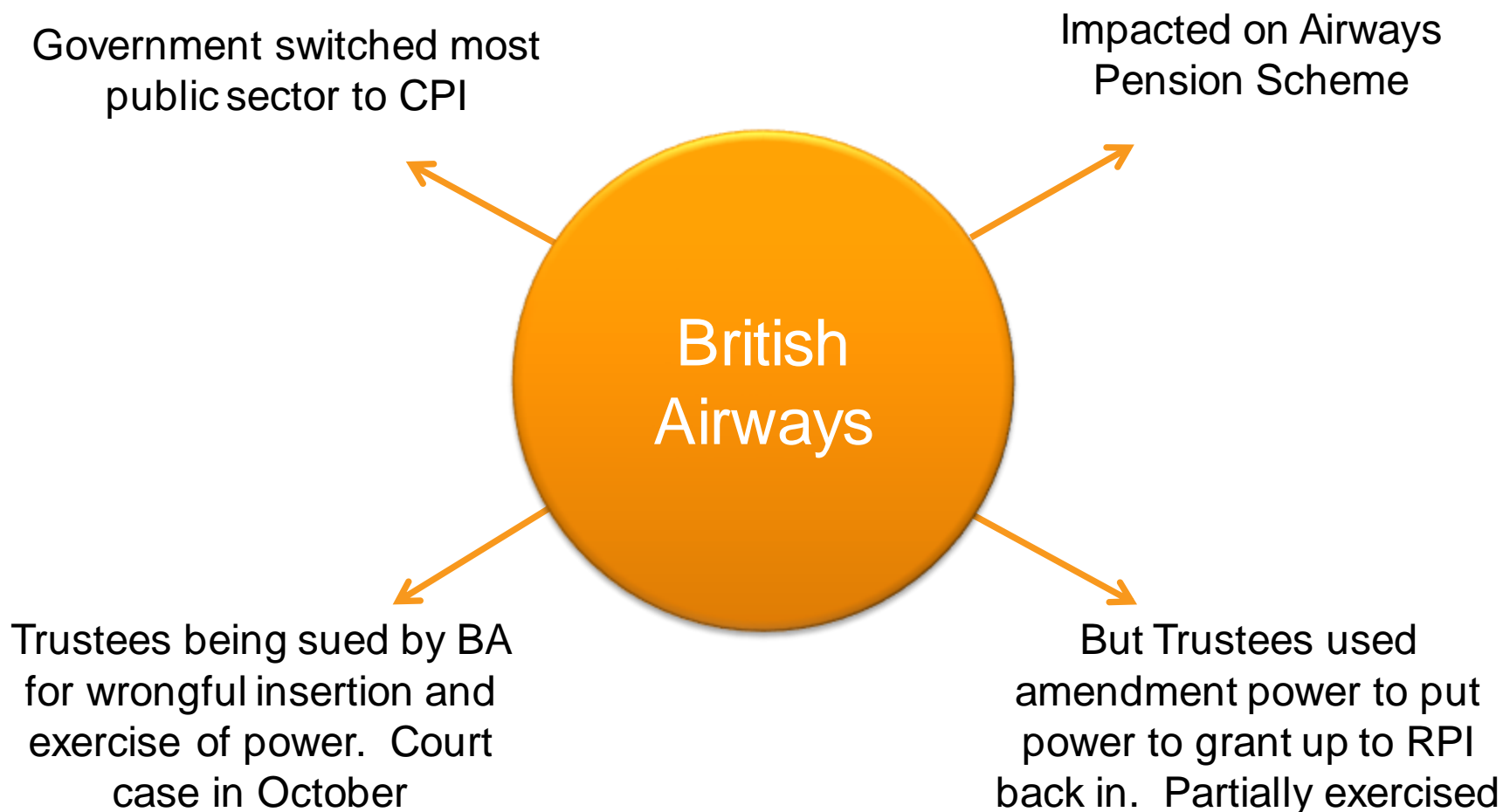
90% but capped at
£33,000

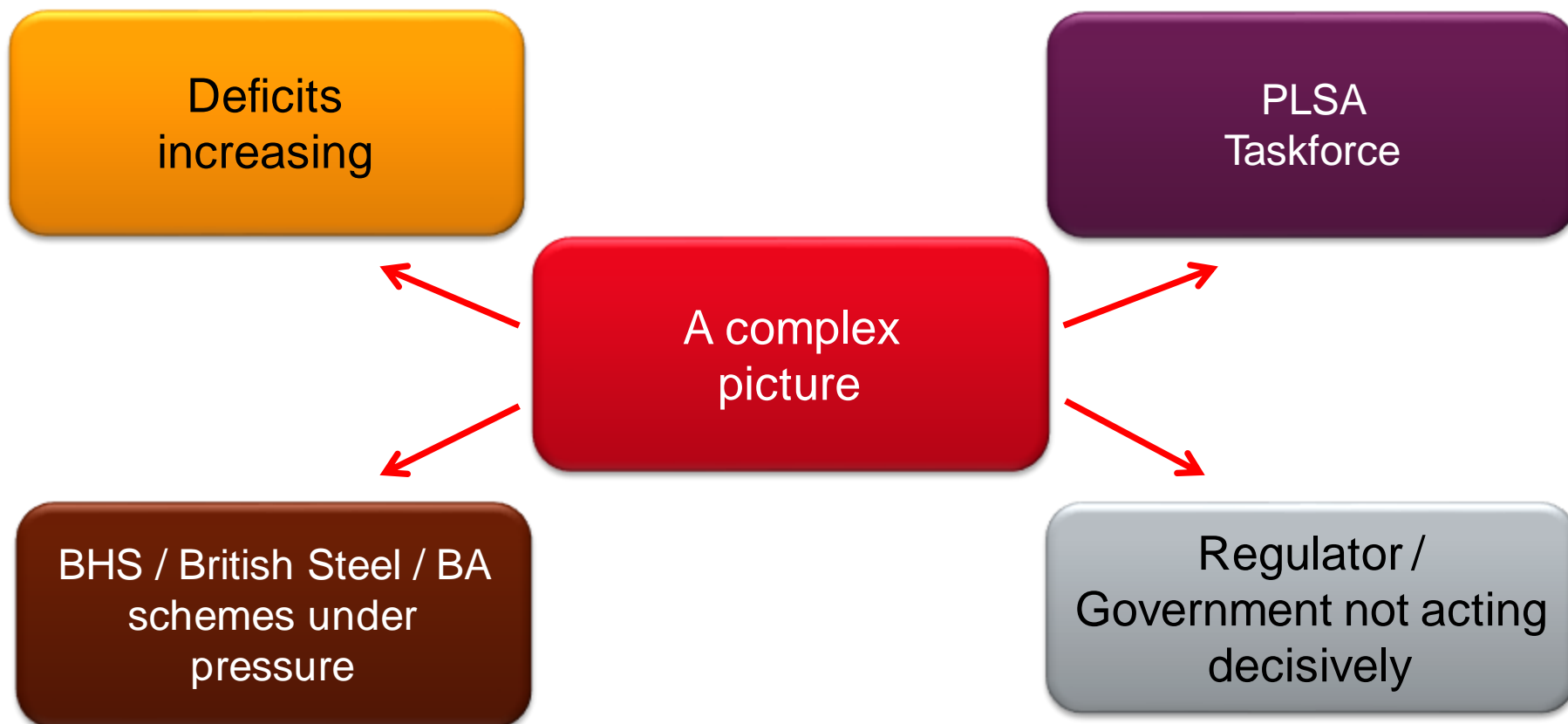
PPF – deficit of £275m
Buy-out – deficit of £571m

Who pays?

British Steel

- 
- Company loss-making. Tata looking to exit
 - But big pension scheme deficit
 - RPI increases. But CPI would take £2.5bn off deficit
 - Trustees asked for law to be changed to permit switch to CPI
 - Government Consultation. “Exceptional circumstances”
 - Not well received in pensions world





But TfLPF is different – strong covenant

Ian Pittaway

ian.pittaway@sackers.com



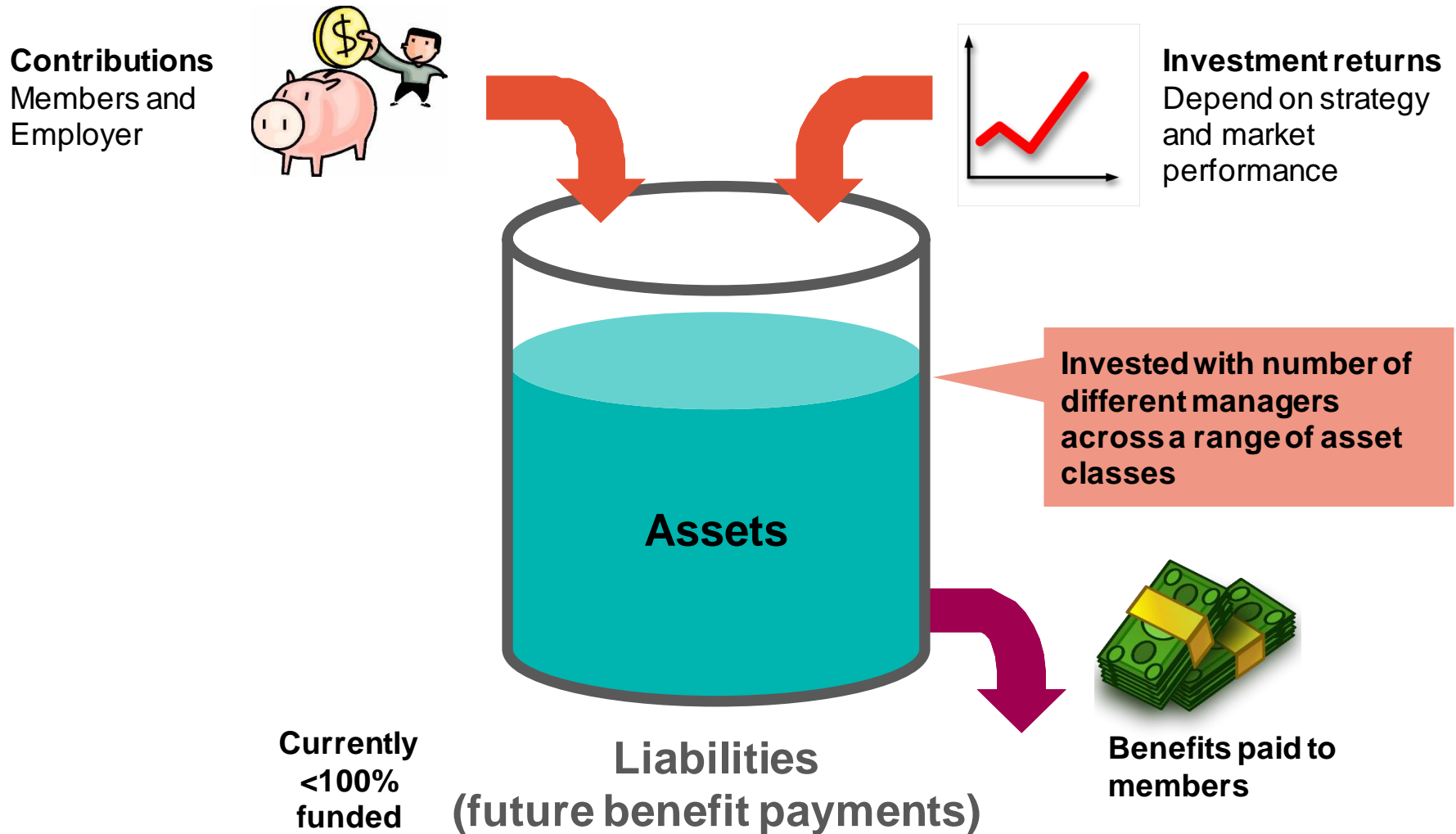
TfL Pension Fund

Annual Members Meeting – Investment update

Ed Francis

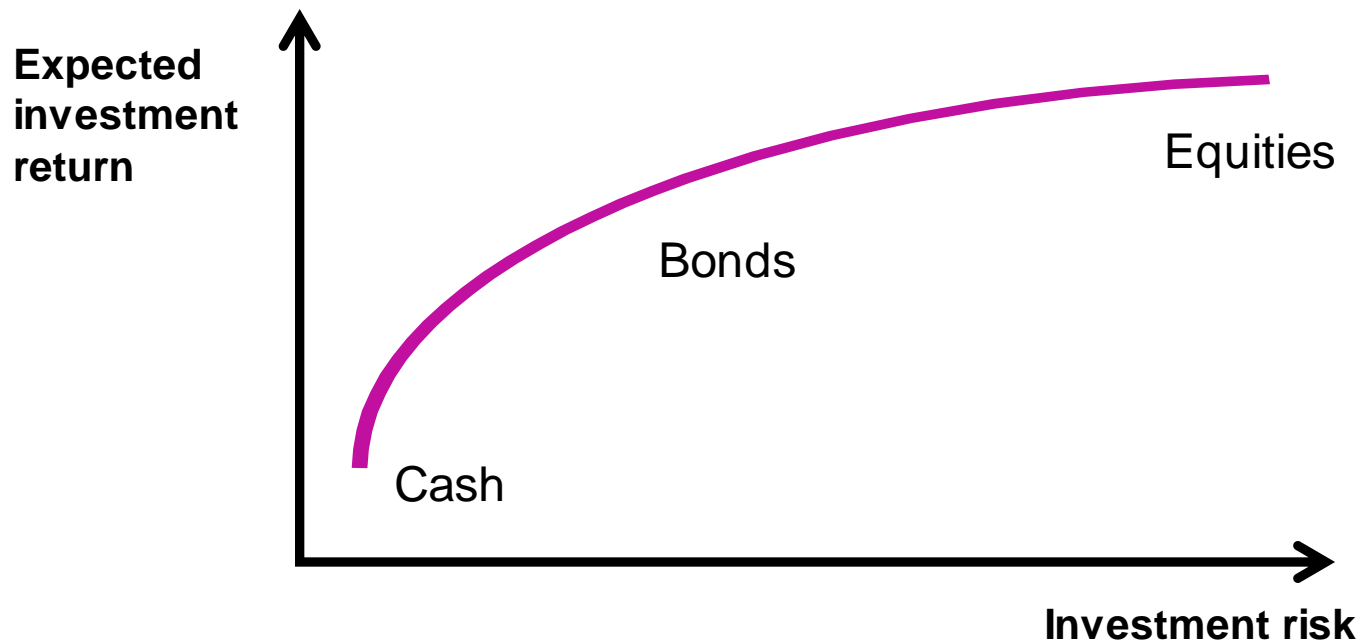
October 2016

The Fund's assets important



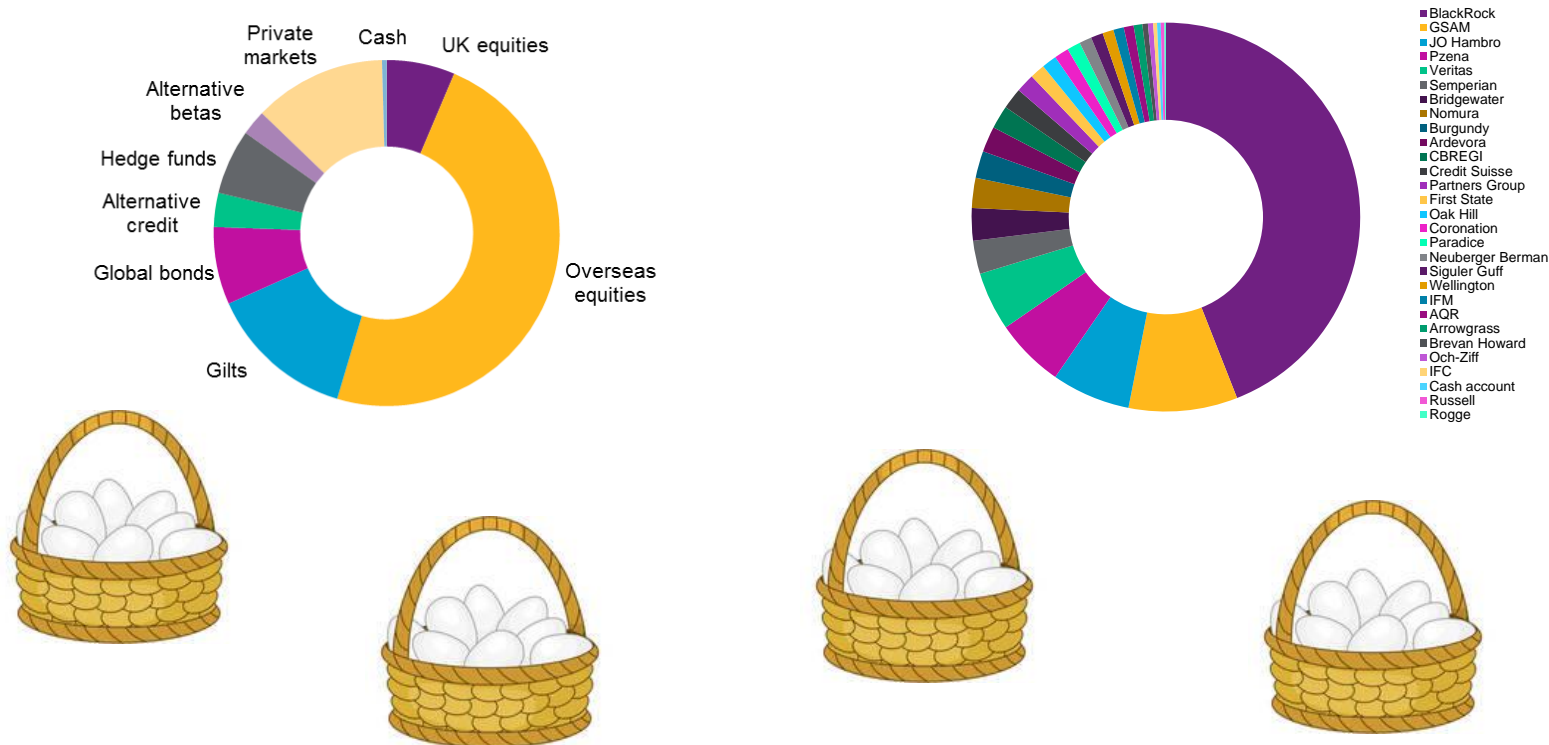
Safeguarding the assets

- Trustee role is to:
 - Invest the assets securely
 - Whilst achieving a suitable investment return
- Investing has a Risk vs Return trade-off



Diversifying managers risk

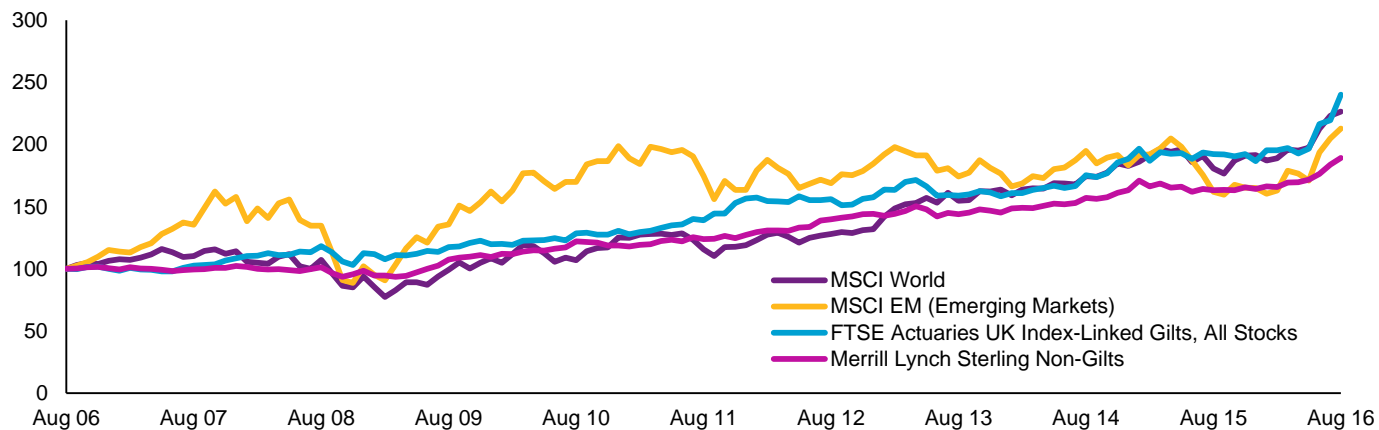
- Diversification helps to reduce the chance that a negative event will cause a large fall in assets
- Current asset allocation of the Fund is well diversified by Geography, Asset Class and Investment Manager



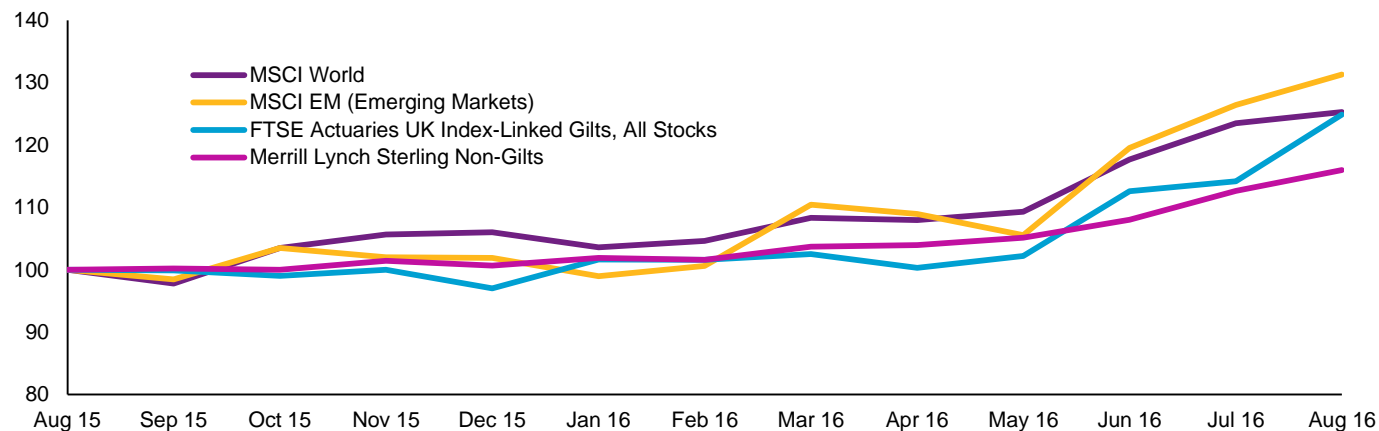
Historical market performance

■ Markets have delivered...

■ Long term



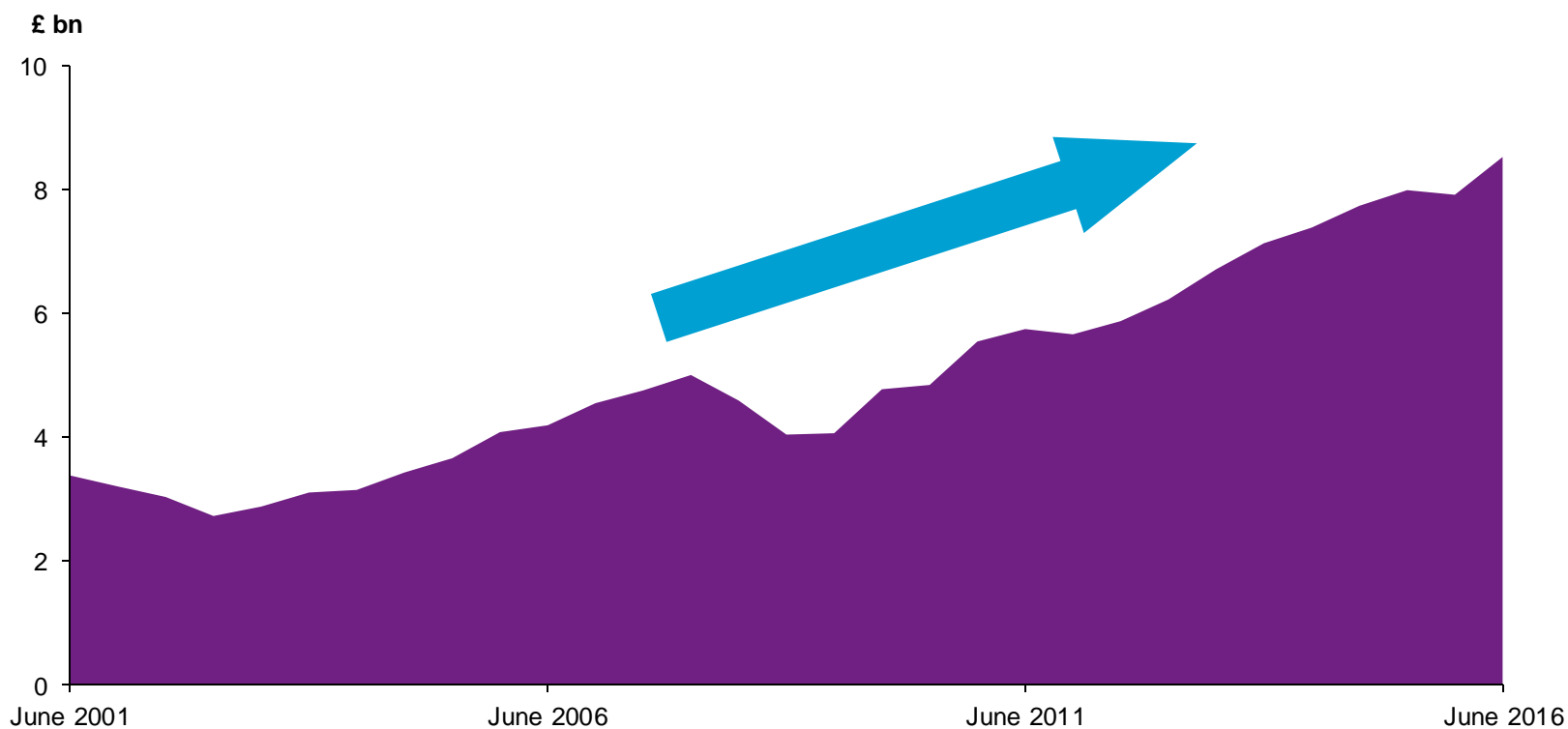
■ Short term



Source:
FTSE International Limited, BoAML, MSCI. Data provided as is

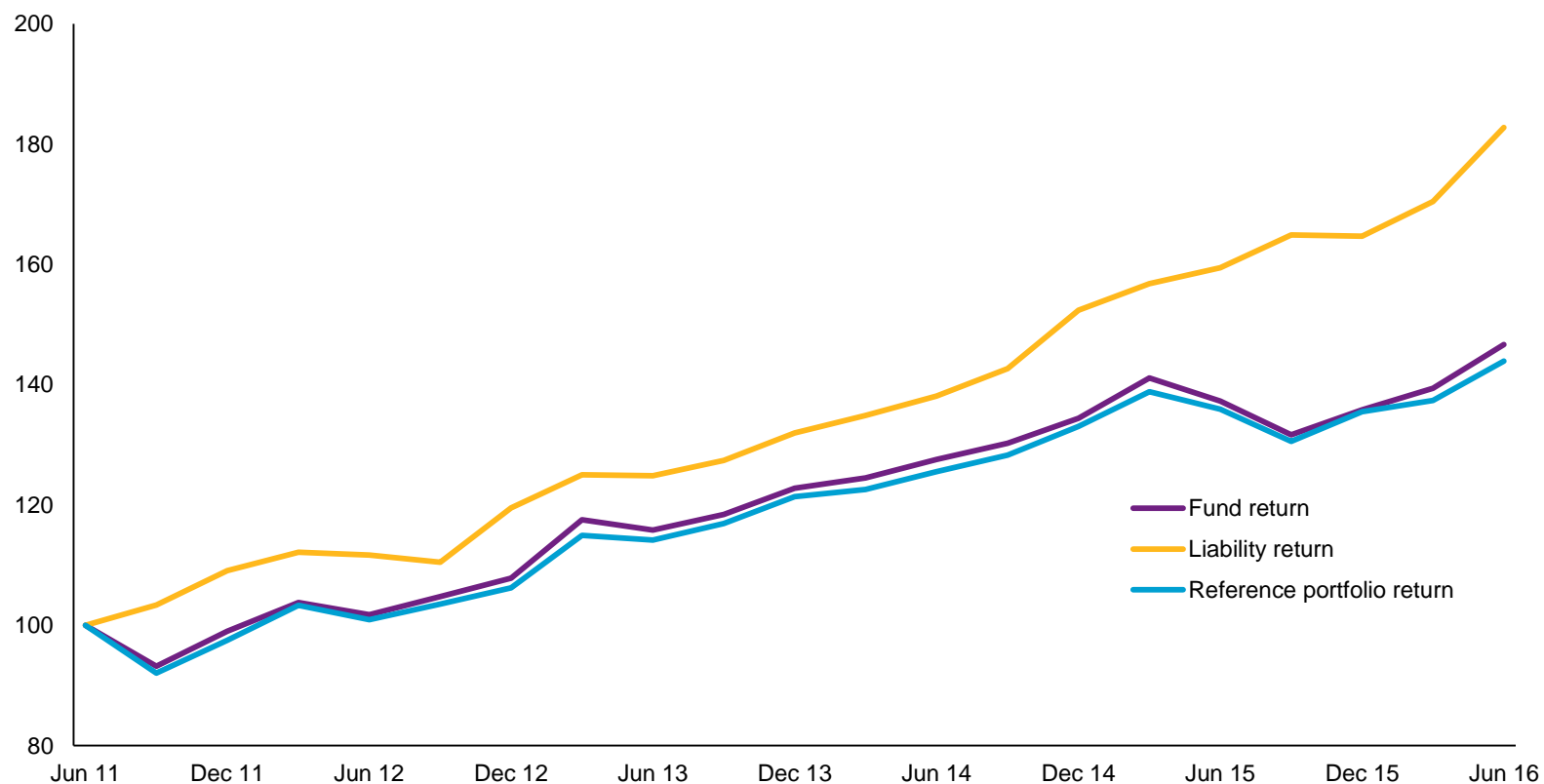
Assets have been increasing

Market value of Fund assets



Relative performance

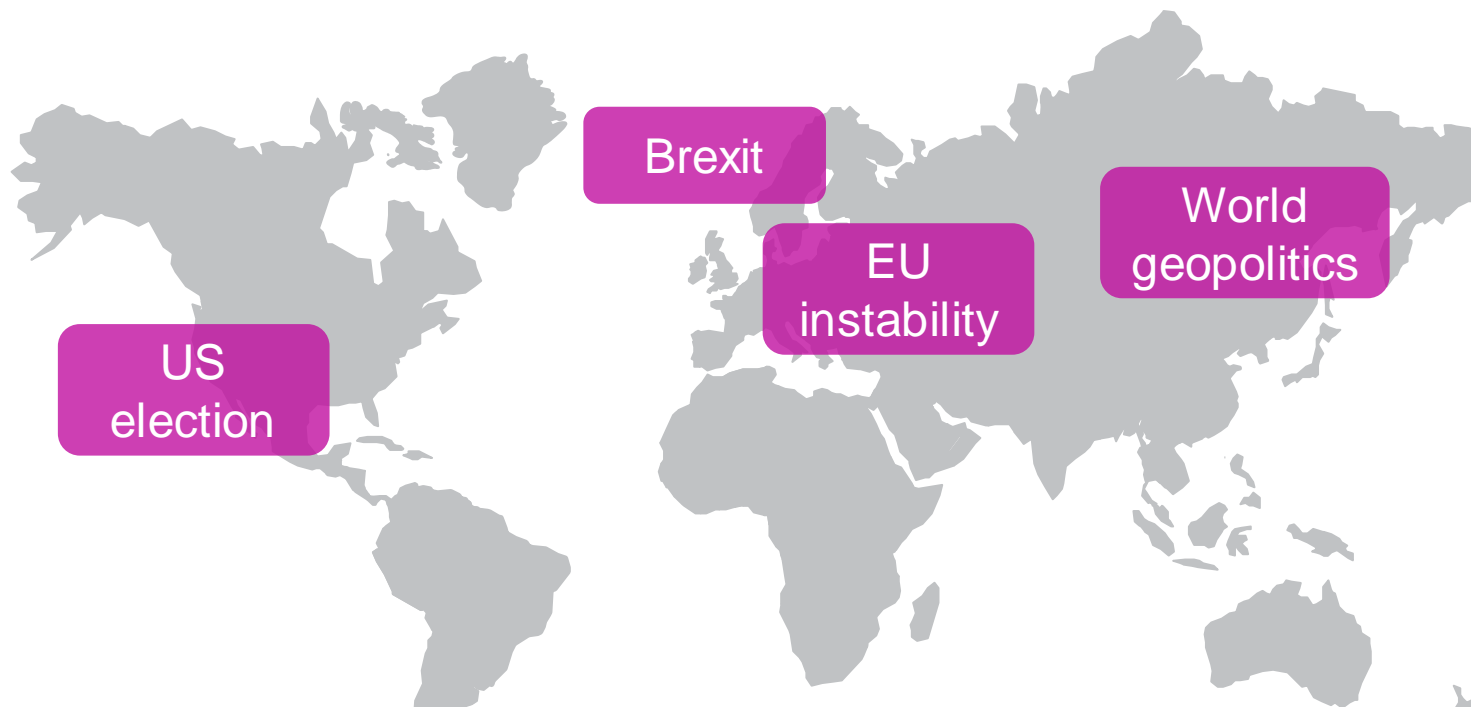
- The Fund's strategy has outperformed a simple equity and bond strategy
- But liability measure has grown more rapidly



Source:
JP Morgan, Mercer, FTSE International Limited, ICE Benchmark Administration Limited

Recent events

- Economies still fragile from Global Financial Crisis
- Very low/negative interest rates (designed to boost the economy) have reduced return expectations and hugely increased liability values



Global events create uncertainty, leading to....
Market volatility → Potential for falls in asset values

Investment industry issues

- Investment management fees

Investors abandon
high-fee hedge funds

FINANCIAL TIMES
Asset managers under fire over hidden
pension fees
Savers exposed to more than 100 charges, study reveals



- Fossil fuels – potential for stranded assets



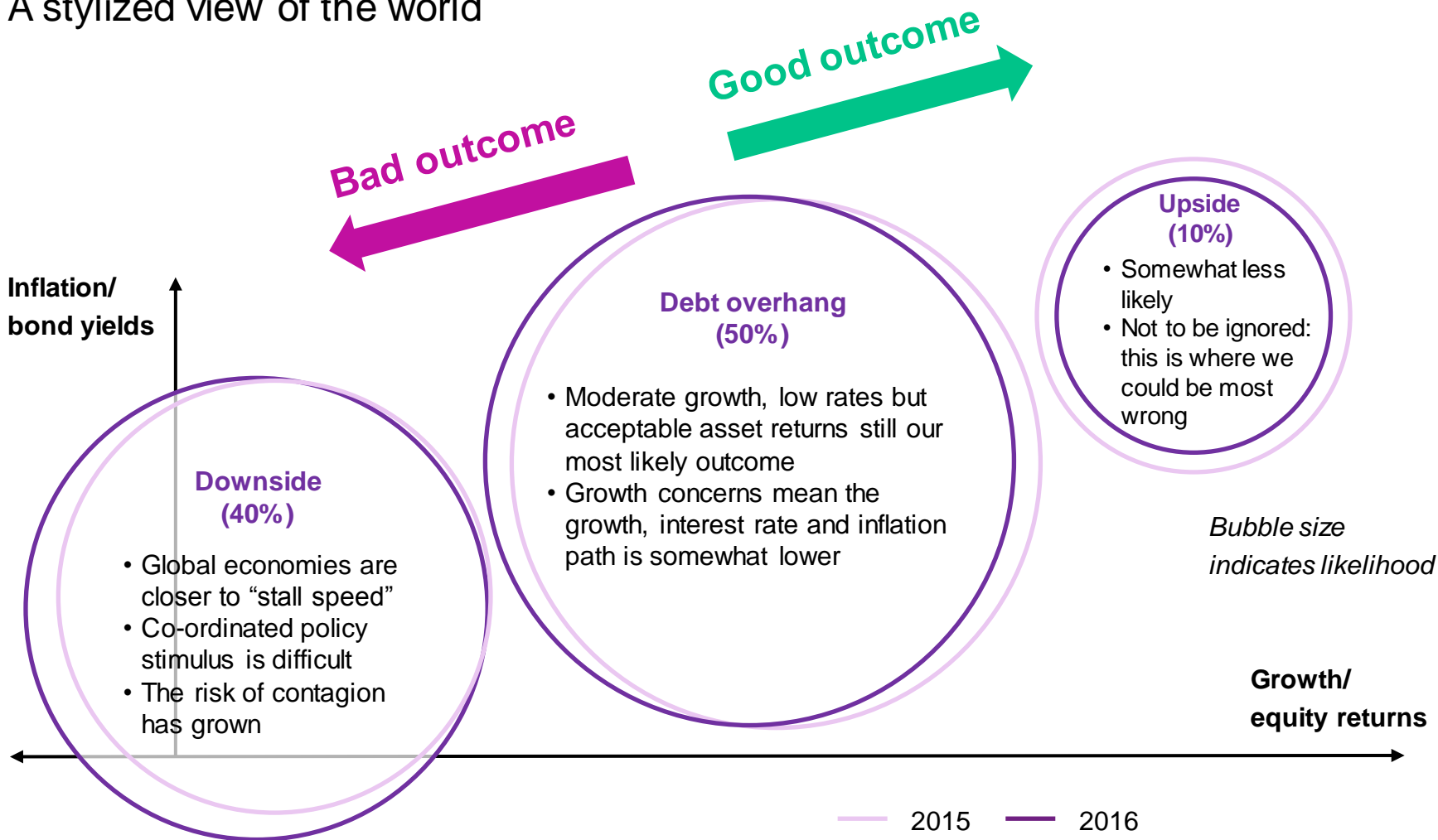
- Shareholder activism



- FCA Asset management market study

Economic outlook

A stylized view of the world



Market view

- A number of risks, each not that likely, but could have a big impact on specific asset classes / economies
- What does this mean for the Fund?
 - Potential losses from certain asset classes

The Trustee continues to manage the Fund's assets actively

- Investment strategy reviewed in the second half of 2015
- Allocation to equities reduced to continue to diversify assets

New investments

- BlackRock – Replacement commodities manager
- CBRE – Increased property investment
- Credit Suisse – Replacement reinsurance manager
- Goldman Sachs – Low cost “hedge fund like” investment
- Russell – New emerging market equity manager
- Other new ideas in pipeline



Terminated investments

- Brigade – Alternative credit manager
- Gresham – Commodities manager
- Nephila – Reinsurance manager



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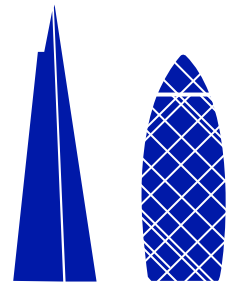
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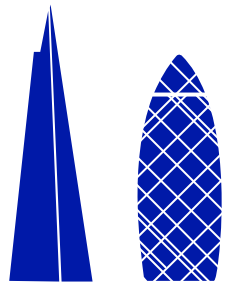
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Thank You
and
see you next year
on 27 October 2017

